PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF
WARFIELD T. LONGCOPE, M.D.,
DIRECTOR OF THE AYER CLINICAL LABORATORY, PENNSYLVANIA HOSPITAL.
ASSISTED BY
G. CANBY ROBINSON, M.D.,
EX-RESIDENT PHYSICIAN, PENNSYLVANIA HOSPITAL, PHILADELPHIA.

The Influence upon Intestinal Absorption of Exclusion of the Pancreatic Juice from the Intestines.—After discussing the results obtained by various observers upon the fat and nitrogen absorption by ligating the pancreatic duct in dogs, NIEMANN (*Ztschr. f. exp. Path. und Therap.*, 1909, xv, 466) describes two similar experiments which he performed. The main pancreatic duct together with the accessory duct was ligated, the dogs were allowed to recover, and later feeding experiments made. In both cases it was found that from 61.5 to 93.9 per cent. of the nitrogen of the food was absorbed, and from 91.2 to 98.7 per cent. of the fat. This seemed conclusive evidence that complete occlusion of the pancreatic ducts is compatible with excellent resorption of fat and proteid from the intestines. The effect on the pancreas of this operation is, however, very marked. When the dogs were killed, one or two months after operation, almost no normal pancreatic tissue was to be found. There occurs shortly after ligation of the ducts necrosis, first, of the central portion of the gland, and later, of the periphery. As the process extends toward the periphery the necrotic tissue is replaced by connective tissue.

Sclerosis of the Gastric Arteries.—The study of cases of arteriosclerosis in which the arteries supplying the stomach and intestines have been especially involved has led to the recognition of a more or less definite symptom complex spoken of as "Angina Abdominis." Perutz and Cheinisse have recently discussed this interesting question and have reviewed the literature extensively. The cases may be divided into three groups: (1) Those in which there are subjective and objective symptoms, pain and constipation during life, accompanied at autopsy by sclerosis of the abdominal aorta with thrombosis or stenosis of the opening of the cœliac axis or mesenteric arteries; (2) cases in which the same symptoms occur, with no other alterations than extensive sclerosis of the main branches or even finer twigs of the gastric and mesenteric arteries, and (3) those cases in which the disease is localized and manifests itself by ulceration of the gastro-intestinal mucous membrane or by hemorrhages. BUDAY (*Ziegler's Beit.*, 1908, xliv, 327) reports a case belonging to this third group. A man, aged forty-six years, had had, during the space of three years, several gastric hemorrhages. The last hemorrhage occurred five to six days before his illness, which was due apparently to collapse consequent upon the severe anemia. At autopsy old blood was found in the lower part of the intestinal tract, but none was seen either in the duodenum or stomach. A careful examination of the entire gastro-intestinal tract failed to reveal any point of erosion or ulceration from which the bleeding might have arisen. There were, further, no changes in any of the other organs which could in any way explain the gastric hemorrhage. When, however, the gastric mucosa was searched again for possible bleeding points, it was found that the arteries in the wall of the stomach were the seat of an extreme grade of sclerosis, and in places groups of minute tortuous arteries could be felt as hard knots beneath the mucosa. Though there was a slight general sclerosis, there was in no organ, available for microscopic study, a sclerosis to compare with that of the gastric vessels. The arteries supplying the intestines were only moderately affected. Microscopic study of the gastric mucosa confirmed the findings at autopsy. The small arteries lying in the submucosa showed extensive alterations. There was great degeneration, sometimes calcification, and always thinning of the media with irregular dilatation of the vessel and thickening of the intima. The lumen of the vessels was rarely narrowed and never occluded. More often there was an aneurysmal dilatation. In places these diffuse aneurysms lay directly beneath the mucosa, and often the mucosa was much thinned above them. Buday concludes that the severe gastric hemorrhages in this case were due to rupture of these sclerotic vessels. In no place could an actual rupture be demonstrated, but since the last hemorrhage occurred over two weeks before death, and as there was no fresh blood in the stomach, it is fair to suppose that if a rupture had taken place it would have healed. Though Gallord, Sachs, and Hirschfeld have reported gastric hemorrhages from erosions of small arteries, very little attention has been called to this origin of the so-called idiopathic hemorrhages from the stomach, and Buday believes that a careful study of the arteries in such instances will lead to the finding of alterations such as he describes.

Experimental Heart Hypertrophy.—Following injections of adrenalin in rabbits, hypertrophy of the heart has been noted by certain observers, but so far the reason for this hypertrophy has not been satisfactorily explained. MIESOVIEZ (*Wiener klin. Woch.*, 1909, xxii, 79) has compared the weights of the hearts of normal rabbits with the weights of the hearts from rabbits which had received repeated injections of adrenalin. Since the actual weights of the heart of rabbits varied within wide limits it was only possible to use the relative weight of the heart to the body weight. This figure was fairly constant. In all the rabbits inoculated with adrenalin, hypertrophy of the heart was found, and the hypertrophy affected almost exclusively the left ventricle. The importance of sclerosis of the splanchnic arteries in the causation of heart hypertrophy in man, as pointed out by Romberg and Hasenfeld, suggested that the change in the bloodvessels caused by the adrenalin injections might account for the cardiac hypertrophy; but on analysis it was found that in several cases in which there was well-marked hypertrophy arterial changes were entirely absent. It was also found that there was no constant relationship between the numbers of injections of adrenalin and the amount of cardiac hypertrophy; and well-marked hypertrophy occurred after comparatively few injections.